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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,443	12/04/2001	Jeong Ho Kim	K-0349	9177

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P.O. Box 221200
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EXAMINER

MULL, FRED H

ART UNIT	PAPER NUMBER
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3662

DATE MAILED: 01/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Applicati n No.

10/000,443

Applicant(s)

KIM ET AL.

Examiner

Fred H. Mull

Art Unit

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-- The MAILING DATE of this c mmunicati n appears on the cover sheet with the corresp ndence address --
Period f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

On p. 8, paragraph 27, equation (1), there is a "Q" operation and an "E" operation which are not defined. Is the "Q" meant to be a sum " Σ "?

Appropriate correction is required.

Claim Objections

2. Claim 1 is objected to because of the following informalities: In line 8, "transmittor" should be --transmitter--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-32 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

What the QoS (Quality of Service) parameter is and how it is determined is not disclosed. Indeed, in Fig. 2, there is no input from the array antenna 201 to the QoS determining part 204, so that it does not appear it is being determined from the mobile or the received signal. Does a Motorola model A phone have a certain known QoS while a Ericsson model C phone has a certain known QoS? If so, the "QoS determining" is just looking up a value in a table based on the known phone of the user? Or does a text message require a lower QoS than a voice conversation, since the message does not need to be transmitted in real time? In that case, wouldn't the QoS determining part need an input from the signal to know what kind of message is being sent?

4. Claim 14 is rejected both under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, and under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the equation there is a "Q" operation and an "E" operation which are not defined. Is the "Q" meant to be a sum " Σ "? Additionally, in line 4, "I" is defined, but there is no "I" in the equation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward in view of Mercado (Adaptive QoS for Mobile Multimedia Applications Using Power Control and Smart Antennas), or, alternatively, Mercado in view of Ward.

Ward discloses a reception angle estimator configured to estimate a reception angle of a received signals, a weighted vector calculator configured to calculate a weighted vector using the estimated reception angle, and a transmitter configured to apply the weighted vector to the transmitted (p. 461, first paragraph under section II; Fig. 1).

Mercado discloses a determining part configured to determine a Quality of Service (QoS) parameter according to a required service quality, a weighted vector calculator configured to calculate a weighted vector using the QoS parameter, and a transmitter configured to apply the weighted vector to the transmitted (p. 60, abstract and first paragraph under section I, first full paragraph in column 2).

Ward uses the signal's maximum SINR to determine the reception angle. Mercado uses the signal's SINR to determine the QoS, the maximum value thereof maximizing the QoS. Since each is already using the SINR to determine one parameter, since it can also determine the other parameter without making any additional measurements, it would be obvious to measure the other.

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6. The examiner also finds the following reference(s) relevant:

Mercado (Adaptive QoS for Mobile Multimedia Services Over Wireless Networks),
Stanwood, Wakutsu, and Bourlas, all of which discuss QoS in smart antenna systems.

Applicant is encouraged to consider these documents in formulating their response (if one is required) to this action, in order to expedite prosecution of this application.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 703-305-1250. The examiner can normally be reached on M-F 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on 703-360-4171. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Fred H. Mull
Examiner
Art Unit 3662

FHM
January 17, 2003


THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600